A New Gold Rush
The boom in world prices has fueled a gold rush across West Africa; but there are worrying trends
Introduction

The history of West Africa can be said to have been largely shaped by gold. The fabled Mali Empire which flourished between the thirteenth and sixteenth centuries and sprawled more than two thirds of the present day region, was based on control of gold that was traded to Europe through the Trans-Sahara trade route. The region’s encounter with the West was due to Europe’s search for a way to access the gold without using the Arab middlemen. This encounter laid the foundation for the trans-Atlantic slave trade and eventual colonization. Gold continues to shape the present as it is a key component of Gross Domestic Product in the region as well as a major foreign exchange earner for many countries.

The region currently contributes about 8% of the world’s gold production and the prospects for increasing this share are very good as most countries are on the gold bearing Birimian geological formation. Indeed frenzied exploration has seen some countries double output in recent years and some non-producers like Liberia set to become gold exporters. Thus gold will have a profound impact on the future of the region.

But “all that glitters is not gold”; and the story of the impact of gold has not been inspiring. This issue explores the benefits and challenges of gold production in the region. The first article looks at the impact of gold on the region’s economies; the second examines artisanal mining and its challenges and the third article looks at gold and the future of the West African state. The last article looks at the impact of gold in agriculture using Ghana as a case study.
“All that glitters is not gold”, may be a tired old saying but for citizens and communities across West Africa this holds a meaning that is as literal as it can get. The region has seen gold production go up as prices have risen sharply over the last decade. However the riches have been elusive and indeed gold has intensified conflicts, breeding criminality and is having a negative impact on agriculture and biodiversity. Gold prices have glittered but the impact has been anything but golden.

It is only late in the day that governments in the region are beginning to recognize the lost opportunity – as they have watched the price of gold skyrocket without a commensurate increase in revenues – and are beginning to act to capture some of the benefits from gold mining. In many countries governments are now enacting new fiscal regimes to improve revenue collection from the sector.

This is a welcome development. Indeed under new laws some governments are likely to double their sector revenues; revenue that if well utilized could imply a doubling of current benefits to citizens.

However, these potential gains from new laws are not assured if the laws are not well designed and produce adverse effects. There are indeed worries that some of the actions being taken may have future adverse effect especially where governments are seeking greater stake in mining entities while they themselves have governance issues. Government bureaucrats have not been particularly good at managing government companies and thus may add little value to mining company boards. However they may also learn by becoming members of these boards and some good practices may diffuse back to governments.

Designing a fiscal mining policy that attracts the right investments while at the same time providing fair and adequate benefit to the public is a work in progress and this is one area where governments can use expertise from outside.

While the benefits of gold to nations have been less, the optimal cost of gold mining has been high. Agricultural productivity has been negatively impacted with loss of land and loss of productivity due to contamination by gold mining activities. One researcher estimates that the loss in yields of cocoa and maize in the western region of Ghana is more than the revenues collected from gold. Biodiversity is also losing out with forests being cleared for mining.

But perhaps a bigger concern is really managing the large and growing informal mining sectors. Not only is it extremely difficult to collect revenue from this sector, the unregulated sector brings with it many social costs, in particular health hazards and environmental degradation due to indiscriminate use of highly toxic mercury and cyanide in the mining process. Further, criminal elements operate in this sector and as price of gold has risen these elements have become more brazen; they have been forcefully occupying private and public property and engaging in armed skirmishes with law enforcement officers. As a result some countries are beginning to upgrade control of the sector from standard law enforcement to a matter of national security and are starting deployment of defense forces to engage them.

It will not be easy for governments to regulate and control the sector, and the problem could likely to get worse over time. This is because the growing strength of the illegal sector is being further strengthened by participation by the wider society especially the urban middle class who are now financing equipment and traditional authorities who are organizing labour. The ingredients for eventual state failure are clearly emerging and strengthening and if care is not taken, gold might become a curse for the region – a curse similar to the curse of conflict diamonds that fueled civil wars in Liberia and Sierra Leone in the last decade.
Gold has been part and parcel of the region’s history and has thus played a big part in shaping the present. The fabled 13th -16th century Mali empire was based on control of gold trade; indeed gold exports from the region to Europe via the trans-Sahara trade were instrumental in fueling the rise of capitalism and the rise of Europe. Further, the desire to cut out the Arab middlemen who controlled the trans-Sahara-Europe route led the Europeans to seek the source and thus sail to the region. Gold was the basis of many transactions between the region and Europe and set the stage for later slave trade and colonization.

The region currently contributes about 8% of world gold production and gold continues to play a key role in its economies. The key producing countries are Ghana (47%), Mali (16%), Burkina Faso (15%), Guinea (9%) and Cote d’Ivoire (5%). These producers are now being joined by Senegal, Liberia, and Sierra Leone.

In the three top producers, the economic impact is stark:

- In Ghana, gold accounts for about 12% of GDP and directly contributed 38.3% of Ghana’s total corporate tax earnings. The sector employs some 28,000 people in the large-scale mining industry.

- Mali’s gold represents about 19% of GDP and about 80% of exports. It employs about 8,000 persons, contributing with US$ 163 million (euro 133 million) in taxable wages.

- And in Burkina Faso, the industry accounts for 8 percent of the GDP and employs 5,000 people. Gold accounts for about 64.77% of exports of goods and services.

Figure 1, below, shows the contribution of gold to Gross National Income (GNI) across producer countries. Note that there is a significant reduction when using GNI rather than Gross Domestic Product (GDP) as a measure. This is because GNI excludes earnings of foreign workers and gold mining makes heavy use of expatriate staff. The incomes that flow as a result are quite significant (about 5% for Mali) underscoring the need to develop skills in mining.

**Fig1: Contribution of Gold to Gross National Income (GNI)**

![Graph showing contribution of gold to GNI across countries.](http://www.goldfacts.org/en/economic_impact/interactive_map/)

**Future Prospects**

*Last decade’s positive growth is expected to continue.* Demand for gold has stayed high over the last decade; and as a result the world market price has increased from $267 per ounce in 2001 to about $1,400 currently. Both high demand and high prices – which have been instrumental in boosting investment and output in the last decade – are expected to remain high and drive the positive trends and gains.

**Figure 2: Growth in international market price for gold**

![Graph showing growth in international market price for gold from 2001 to 2010.](http://www.goldfacts.org/en/economic_impact/interactive_map/)
According to the Official Monetary and Financial Institutions Forum (OMFIF), the global demand of gold is expected to stay high as the world heads towards a multi-currency reserve system under the impact of uncertainty about the stability of the dollar and the euro, the main official assets held by central banks and sovereign funds.

High gold prices and good performance of existing mines has reduced anxieties about instability in the region leading to increased investment in gold production. The result is that gold production has gone up tremendously. For instance, Burkina Faso has ramped up gold production by 32 percent.

The geological structure of the region suggests that many more countries have good prospects of becoming producers as the gold bearing Birimian formation covers almost all the countries. With gold prices forecast to stay high, the region has seen heightened interest by all the major gold mining houses in both production or prospecting. To date the region has attracted a mix of major multinational miners, mid-size producers and junior explorers, predominantly from the US, Canada, South Africa and Australia.

Production is forecasted to rise to about 11-million ounces by 2015 (compared to 6.7-million ounces in 2010). Cote d'Ivoire's production is forecast to rise from 14 tonnes (2012) to 25 tonnes by 2015 as new mines come on stream. And in Liberia and Sierra Leone, production is coming on-stream as new mines are at advanced stages of development.

There are also signs of progress in the area of value addition. Mali has a planned $58 million gold refinery, the first. This joint venture with a Swiss company (Swiss Bullion Company) is expected to open in November 2013.

Impact and Potential Interventions
The steep rise in price of gold coupled with rising gold production is expected to have positive impact on the region's economies. Indeed the government of Burkina Faso which expects a 400% increase in gold tax revenues, from US$30 million in 2011 to US$150 million by 2017, is looking to such gains to make a big impact on poverty levels in the country.

However concern has been raised that the region has not really benefitted from the gold and indeed may have been a loser due to the environmental damage that gold mining wreaks. A report published by the International Monetary Fund (IMF) a few years back that looked into the taxation of Mali’s mining sector found that gold riches benefit Malians to only a small degree. Other analyses have revealed similar sentiments and under pressure from civil societies in particular, government in the region have revised their mining codes so that countries can capture higher benefits from high gold prices. Primarily, governments responded by toughening the fiscal regimes governing the gold sector.

Consider the case of Ghana. In early 2011, the Government of Ghana increased royalties on mining from a range of 3% to 6%, to the current flat rate of 5%. Corporate tax for mining companies has also been increased from 25% to 35%. Capital allowance has been changed from 80% in the first year and 50% on declining balance to a straight line amortization over five years at 20% per year, which government claims is the norm for extractive industries. Mining assets are now to be ring-fenced for the purposes of determining tax payable which means mining companies must treat each of its operations separately for tax purposes and can no longer write down its tax obligations from one profit-making mine against the losses made at another. Ghana proposed a windfall tax of 10 percent on mining companies' profits in its 2012 budget, but it has since indicated that it may scrap the levy over fears it could do more harm than good. Actions taken by countries are summarized in table 1

<table>
<thead>
<tr>
<th>Country</th>
<th>Recent Changes in mining taxes</th>
<th>Introduction of new taxes</th>
<th>Royalty Rate (%) for Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghana</td>
<td>25% to 35% corporate tax</td>
<td>10% windfall taxes</td>
<td>5%</td>
</tr>
<tr>
<td>Cote d'Ivoire</td>
<td>19% windfall taxes on gold</td>
<td></td>
<td>3%</td>
</tr>
<tr>
<td>Mali</td>
<td>35% to 25% on corporate income</td>
<td>Raise mining share from 20% to 25%</td>
<td>3%</td>
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<tr>
<td>Guinea</td>
<td>35% corporate tax</td>
<td>10% withholding tax on dividend</td>
<td>5%</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>25% to 20% corporate tax rate</td>
<td>20% tax on sale of mining license</td>
<td>3%</td>
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Governments are also requiring mining companies to do more in developing local economies. In Sierra Leone, the government’s new Mines and Minerals Act requires companies to invest one tenth of annual revenue in local communities.

Not all have welcomed this change and indeed fears have been expressed that the law will lead to reduced investments in the future. Further, it has been argued that populist pressures and a lack of ministerial and bureaucratic expertise can lead to arbitrary and punitive policies which are not conducive to long-term growth. In Guinea, for example, some miners have complained that the country's new mining code provides the government with a right to secure significant a stake in mining projects (up to 35%).
These critics do have a point, as governments in region do not have a particularly good record in managing corporations. Thus, when governments have a huge stake in running private companies it is likely that governance challenges will arise. They are often not well prepared to play the role of shareholder, with the many technical responsibilities that such a position entails. There is need to improve skills of government bureaucrats so that they can be effective board members and ensure that shareholder value is increased. At the same time, Governments must find ways to balance their role as a regulator on one hand, and as a shareholder on the other. Lessons from Botswana which has successfully played the dual roles regulator and shareholder can show the way forward.

Potential interventions
While the benefits of gold have been questioned, the adverse impact of the industry is an area that is seeing increased interest by advocacy groups and researchers. There is increased attention to issues that are becoming more critical particularly the adverse impact it is having on the social fabric, agriculture and the environment.

Higher gold prices is fueling increase in artisanal mining activities and also attracting new players, changes that are engendering conflict, and polluting the environment.

When the benefits of gold are weighed against the challenges the industry brings forth it is hard to say that higher gold production and prices will necessarily be a good thing for the region. As we shall see gold production has a significant and negative agriculture and biodiversity impact. The higher price increases fuelled artisanal gold mining which has very adverse impact on environment and health. It further fuels human trafficking and other vices. All this is brewing conflict with potential for instability. “The Gold Curse” is a real possibility.

Recognizing the need to be more attentive to the potential for conflicts Ghana’s Minerals Commission has developed tracking mechanisms to monitor conflict triggers in mining communities. Competing claims over land use constitutes one of the major triggers of conflict in most mining areas in Ghana, with local communities often complaining about inadequate compensation paid to them by mining companies. The communities also complain of being marginalized by the mining companies in the engagement of persons recruited to work in the mines and the destruction of their farmlands, resulting in the disruption of their livelihoods.

To deal with this situation, the government has developed a range of regulations for resettlement and prompt payment of fair and adequate compensation to land owners or lawful occupiers. Additionally, alternative livelihood initiatives are also being implemented in most affected communities by the mining companies.

The World Bank points out that there is potential for the region’s economies to further benefit from gold mining by using the mining to catalyze private-sector investment. It recommends that governments in the region encourage mining companies to develop local procurement plans, which would assess their current situation and set realistic local procurement targets as well as establish a supplier development fund to reinvest mining revenues back into smaller businesses. It also recommends that West African governments work with mining companies, suppliers, and civil society to strengthen definitions and indicators for measuring local procurement. Easy potential opportunities for expanding local supply are in areas such as camp management, civil works, construction and transport, as well as drilling, mining, and equipment maintenance. The study also notes that regional organizations can help develop a harmonized list of products across the region that may be exempted from customs duties, promoting linkages and investment along the mining supply chain, develop a regional list of suppliers, and continue to facilitate regional trade.

In Ghana, a conscious effort has been made to move the process forward in a more structured manner through legislation. The Ghanaian government is also working with mining companies to assess their staffing situation in detail and to calculate the number of local employees, as opposed to expatriates.
Box 1: Corporate Social Responsibility (CSR) Activities

The gold industry has been heavily involved in the development of local communities through Corporate Social Responsibility (CSR) across the region. Some examples include:

- The Integrated Malaria Control Programme developed by AngloGold Ashanti, and implemented at its Obuasi mine in Ghana, and its associated community in 2006. The objective was to achieve a 50% reduction in the incidence of malaria in two years. As at September 2007, reported malaria cases had declined by 73% since January 2005, with an average reduction of 4,550 cases per month. The model is now being rolled out to AngloGold Ashanti’s other operations in West Africa.

- IAMGOLD is working in partnership with the Canadian International Development Agency (CIDA) to improve educational opportunities in Burkina Faso and help young people gain the knowledge and qualifications they need to enter the job market successfully. Together, the partners are committing almost CDN$2 million to the nationwide project, making it one of the largest public-private partnerships of its kind. IAMGOLD has invested in projects to provide clean drinking water for communities close to its operations in several developing counties. In communities near the Essakane Gold Mine, in Burkina Faso, it provided 35 wells for drinking water and an elevated water tank with solar panels.

- Gold mining companies in Mali are supporting the Mass Drug Administration (MDA) programme fighting a range of neglected tropical diseases (NTDs) endemic to that country.

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Artisanal Mining: a Dilemma

It is estimated that about 12% of global gold production comes from artisanal and small-scale mining (ASM). This clearly makes it a significant sector, and in West Africa the figure is likely to be higher. In Ghana for instance small scale miners contributed some 28% of the total gold production in 2011. The activity is also fairly extensive. In Mali, artisanal mines are scattered across 350 artisanal mining sites with the number of artisanal gold miners estimated at between 100,000 and 200,000 while Burkina Faso has around 800 artisanal mining sites.

The real size of the sector is very hard to estimate due to the fact that it has a very large illegal component and many small scale miners do not declare their output to avoid taxation. For instance in Burkina Faso official figures indicate that artisanal gold mining contributes about 0.5 tones, while it is estimated that the real figure is much higher at about 15 tons of gold a year.

The sector is very attractive to many people especially the poor since it promises to yield much better returns than other traditional activities like agriculture. In Sierra Leone artisanal gold miners claim that they can make up to $100 a week. These kinds of stories push many to abandon farming and swarm to areas that have gold. As a result farmers, children and the youth in mining areas and others from afar are increasingly resorting to small scale illegal mining.

At the moment governments cannot tell the exact number of sites, the number of people involved and the output – a situation which makes the regulation of this sector a daunting task. Further since artisanal and small-scale mining (ASM) employs many in West Africa, government attempts to clean up and consolidate traditional mining areas have often met with strong local opposition. Below we discuss some of the key challenges confronting governments in the region as a result of ASM.

Health hazard and environmental degradation
Perhaps the biggest challenge in artisanal mining is mercury poisoning and contamination. Mercury is a key chemical used to recover gold as it attracts gold (which is usually collected as mud with gold specs) and bonds to it. Gold can be easily recovered once mercury is heated as it vaporizes easily. Artisan gold miners are responsible for 30 percent of the mercury pollution caused by man. It is estimated that artisanal miners use 8-13 grams of mercury for every 10 grams of gold recovered. Nearly 95 percent of the mercury used by these miners ends up in the atmosphere or in the soil that the miners discard during the process.

When handling mercury, about 1 percent is absorbed through the skin. During the heating 80% of the mercury can be inhaled and deposited in the lungs if care is not taken. Further since many times the processing is done in-doors mercury vapors can contaminate kitchen utensils and other living spaces. This is a serious health hazard for mercury is known to cause many neurological problems especially in young children. This toxin attacks the central nervous system and can also damage the lungs, kidneys, gastrointestinal tract and immune system. For children, who are often involved in all stages of artisanal mining, mercury can lead to severe developmental problems. Women and girls can suffer damage to their reproductive health, and mercury can harm the fetus. Yet at ASM sites children and breast feeding mothers handle mercury without any form of protection.

Box 2: Lead Poisoning Kills Hundreds of Children in Northern Nigeria
Across a swath of mining communities in northern Nigeria, a humanitarian catastrophe is unfolding, as lead from illegal gold mines sickens thousands of children. More than 400 kids have died, and many more have been mentally stunted for life. Doctors Without Borders, which has set up clinics to treat the children, is calling it one of the worst cases of environmental lead poisoning in recent history. The problem first came to light in 2010,
when children in some villages started dying. Medical professionals couldn't even explain what was happening. In some villages, one-third of children under 5 years old died.

Accidents are also a common occurrence as ASM operators observe few safety procedures and use little safety equipment. For instance, in 2012 over 200 artisanal gold miners were killed in Sierra Leone when a trench collapsed. The dead included children as young as 13.

**Environmental hazard**

After being vaporized into the atmosphere, mercury eventually falls back to the ground. Rains wash the mercury into the watershed, where bacteria transform it into methyl mercury, one of the most toxic elements on Earth. Methyl mercury persists in the environment for decades, circulating between air, water, sediments and soil, eventually entering the food chain through contaminated fish, where it poisons animals and humans alike.

**Conflict**

Artisanal mining groups are making it hard for traditional mining companies to take over concessions they have paid for. Traditionally the problem had been to remove them as they tend to move in before traditional companies (who may already hold a concession and may be waiting for gold price to rise to a certain level before starting operations). Recently however, artisanal miners are becoming more aggressive and are invading mines that are already established using violence (including guns) to secure them. Governments are increasingly being forced to provide security to mining companies (see story on future of state). To address this challenge, Mali has established a national commission to study how to secure mining companies against what it calls the omnipresent artisanal gold activities.

ASM operators are also having conflicts with farmers and herders as they are invading land and plundering their assets as they look for gold. In Igbon village in Western Nigeria, the locals complain of how illegal miners have dug up their farms, posing dangers to their lives and how their crops have been destroyed because of the illegal mining activities.

**Disrupting societies**

ASM sites tend to be areas where all manner of social vices thrive including violence, prostitution, heavy drinking and drug use. Yet these are located in remote areas where the inhabitants tend to be social and religious conservatives. The disruption of values can be quite traumatizing for such communities and their sense of order.

Artisanal mining is also increasing the cost of accommodation for example in a place like Dunkwa-On-Offin in Ghana's central region where the presence of the Chinese illegal miners has raised rent prices for guest houses and hostels in the mining towns. Access to such accommodation is becoming difficult for locals.

**Distorting Perspectives leading to short term thinking**

The lure of quick fortunes to be made in artisanal gold mining is distorting perspectives on livelihoods. While many are claiming to be pushed to this field by poverty, there are many whose motivation is quick wealth to the extent that they are abandoning other good professions for artisanal gold mining. In Senegal people with good professions such a mechanics are leaving their work for artisanal mining. It has been reported that some children engaged in this work have been lured by the prospect of making money to buy motorbikes rather than search for food. People's perceptions are thus being distorted and this has adverse implications for long term development goals aimed at developing skills and livelihoods. When gold prices fall or mines are no longer productive, many will find themselves with no profession and many who are also illiterate, ill equipped to adapt to new professions.

**Immigration and Human Trafficking**

ASM typically attracts immigrants from both within countries and across the region. For instance, in Kédougou, an ASM site in Senegal, immigrants from Gambia, Ghana, Burkina Faso, Togo and Nigeria can be found. Many of the ASM sites are called illegal and many of the immigrants are illegal. Some of the immigrants are trafficked to the sites and held under almost slave-like conditions. Children and women are especially susceptible. A BBC investigation found that more than 80 young Nigerian girls are forced to sell sex in Diabougou ASM site. They had been trafficked to Mali, and eventually crossed the border to Senegal.

The region's gold rush has gone global with illegal miners from China, Russia and other regions joining the fray. In China it has been reported that clothing retailers, owners of logistics companies and other workers have rushed to join the ranks of gold miners in Ghana, irrespective of whether or not they knew anything about the industry. Some of the Chinese illegal miners have also been trafficked to the region attesting to the lure of gold.
Smuggling

Most gold mined in ASM is smuggled and thus little revenue goes to government. In the absence of a regional single currency, gold allows trade between the poor nations of West Africa, offering security from the vagaries of local exchange rate fluctuations. For instance, much of Sierra Leone’s gold is used to import light manufactured goods from neighboring Guinea, which means that the treasury misses out on any export levies and import taxes. However the government may be reluctant to interfere in such informal transactions for fear of upsetting cross-border trade, which is essential to meet local demand and provides a livelihood for thousands of traders.

Interventions

There are a number of interventions being undertaken to address some of the challenges with illegal mining, some of which we discuss below.

- The Artisanal Gold Council (AGC) has been active in supporting governments in the region to address the ASM challenges. Some of the interventions they have instituted are noteworthy:
  - AGC is engaged in a regional program covering Ghana, Burkina Faso, Mali and Senegal that aims to build local capacities to address the growing issues surrounding ASM including the use of mercury and cyanide, regularization of the informal economy, health and safety, and supply chain management. The AGC will work with local and international partners to create robust ASM national inventories, mercury free processing sites, and innovative paths forward towards commercialization.
  - The Artisanal Gold Council delivered mercury reduction and mercury-free technology training to artisanal gold miners at 5 different mine locations in Ghana as part of a Larger Fair Trade Fair Mined Certification Program by Solidaridad.
  - In Nigeria the Artisanal Gold Council (AGC) in collaboration with Médecins Sans Frontières/Doctors Without Borders (MSF) have conducted assessment and recommendations on the implementation of a safer mining practices within artisanal and small-scale gold mining communities of Zamfara State, Nigeria.
  - The AGC has also worked with Ghana’s University of Mines and Technology (UMaT), to develop, improve, and introduce direct smelting technology to groups of miners who use mercury to recover gold. UMaT has successfully developed a direct smelting kit which has been provided to miners at subsidized rates. This work has demonstrated that purifying gold without the use of mercury is possible in this context. The kit consists of an efficient furnace, a few common compounds, and some other tools which enable gold concentrates to be directly smelted, thereby avoiding the mercury amalgamation step.

The Blacksmith Institute together with the US Peace Corp is working with Senegalese artisanal gold miners to reduce mercury contamination using education and also introducing simple technologies. It has developed a retort, a simple metal device that fits over the pan when the amalgam is heated. The retort condenses the elemental mercury vapor and allows it to be reused rather than evaporating into the atmosphere. Each retort costs less than $5. Any metal worker in the area can build one using recycled materials such as teapots. However changing habits have proved to be difficult underscoring the importance for education to raise awareness. Also some miners refused to use certain types of retorts because they slowed the mercury evaporation process.

- To reduce gold smuggling, Sierra Leone plans to cut taxes on gold produced by small, individual miners nearly in half. The move would undo part of a mining law drawn up in 2009 and backed by the International Monetary Fund. The law was meant to increase government revenue but instead backfired by triggering a slide in official exports. The proposed cut would bring export taxes on individually mined gold down to 3 percent from the current 5 percent. Sierra Leone has done this in the past with diamonds and was successful.

- It has also been proposed that legalizing ASM activities would reduce incidence of human trafficking. However it is not clear how activities that are being undertaken on someone else’s land without permission, can be legalized unless the government want to compensate mining houses on concessions they have acquired and farmers on lands being destroyed.

- In Burkina Faso, a three-year project that started in January 2012 by Skill Share International, an NGO, is working with child miners in five villages in the Dori region of Burkina Faso to help them build positive futures.
Social Support Foundation (SSF) has so far assisted more than 10 communities to raise awareness of child slavery and provide options for removing children from mines in Ghana. It is also working with a Ghanaian consulting firm, Participatory Development Associates, to pilot a child rights project in the district where child slavery exists in the mines. The goal is to help communities organize themselves to address the root causes of child slavery.

Finally, governments are working with Interpol to tackle human trafficking. Interpol specialists have trained local officials, in the hope they can dismantle child trafficking networks and prevent child labor.

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Gold and the Future of the West African State

Mineral wealth has not always turned out to be a blessing for West African states. As late as the last decade, civil wars and violent conflicts fuelled by artisanal mining in diamonds led to the collapse of two states, Liberia and Sierra Leone. And as the price of gold rises and more sectors of the society and new players are attracted, the possibility of another crisis engulfing parts of the region is not too remote.

Gold is already escalating conflict in the region as farmers, mining houses and artisanal miners compete over land bearing gold. For instance in Burkina Faso, gold has intensified some internal tensions with the rapid increase in the numbers of artisanal gold miners triggering clashes with both farmers and herders. Artisanal miners are also becoming more aggressive. As noted by a village chief in Ghana, “...the Chinese destroyed our land and our river, they are sitting there with pick-ups and guns, plenty of guns...They operate big machines and it makes it very difficult to reclaim the land for farming when they are done...” At the same time, communities are demanding more from mining companies. Recently, 100 villagers blocked a road in protest of the lack of local employment at IAMGold Corp's Essakane mine in Burkina Faso. While not long ago in Guinea villagers next to an Anglo American gold mine had shut down the mine demanding that the mining companies provide them with electricity.

While conflicts are common between formal mining companies and illegal miners, the dynamics are changing as illegal miners become more brazen and as mining companies also deploy greater forces to protect their concessions. Conflict dynamics are changing.

In Burkina Faso, the Sassa-1 mine, owned by private company Pinsapo Gold SA, was attacked injuring 18 people. Pinsapo believes that the attack was organized by criminals who had brought illegal artisanal miners from all around the country, and used them as an attack force. This indicates that artisanal miners could be morphing into organized crime/private armies. Indeed Burkina Faso’s minister of mines has had to assure mining companies that the country was strengthening security forces to ensure mining operations are protected from artisanal miners. The containment of illegal miners is in fact moving from the realm of police work (law enforcement) and assuming dimensions of national security threats as recent cases in Ghana and Cote d’Ivoire show.

In Ghana a combined force made up of military, police and immigration personnel raided the operation camps of the Chinese illegal miners that were occupying a concession of Anglo Gold Ashanti (AGA). In Cote d’Ivoire the heightened tension between the small scale miners and the people has led to the intervention of the Ivorian Minister for Defense. The Minister has ordered the security forces to confiscate the equipment of illegal miners.

Wider society is getting coopted
The illegal mining ranks are also being joined by the middle class in the region who are mostly offering financing. Clearing forest and digging up grounds require heavy machinery which the traditional artisans cannot afford. As price of gold has gone up the lure has now attracted the middle class who are mostly financing the heavy machinery needed in increased scale of activities. A common method is for a group of people to pool funds and acquire the equipment. The average size of such groups in Mali is 40 people.

Traditional authorities who should be the trustee of the people are also being compromised. In Senegal, teams to work in mines are organized by the village chief who is paid a royalty on the extracted gold. According to the village chief in Kendogou, Senegal, the eviction of illegal miners is a big loss to him because he is entitled, as well as the Committee of Wise Men, the local security agents, a share of ore on every hole they operate, according to the rules established and accepted by all. Thus the traditional authorities are enmeshed in the illegal mining web.
As Kofi Tetteh, an assistant manager of small-scale mining at the Minerals Commission of Ghana puts it “...behind every illegal Chinese operator, we are looking at an opinion leader, a chief, a farmer, a land owner or somebody who then sublets it to the Chinese for these illegal activities.” To underscore the scale of corporation it has been reported that an operation to flush out illegal Chinese miners landed the officers involved into serious problems, a testimony to an intricate criminal web involving powerful people.

**Escalating extremism**
The many vices that come with artisanal mining including heavy alcohol consumption, drugs, prostitution and violence are likely to rub on sensitivities of the mainly conservative and Muslim population of the region. Given government inability to curb it, it provides an entry point for the rise of Islamic extremists to impose “solutions” as they deem fit. This coupled with the presence of Islamic terrorist groups in the region (Al Queda Maghreb) provides a recipe for new instability, with the illegal gold itself providing the needed finances.

**Weak State Capacity**
State capacity is clearly overwhelmed by the scale of illegal mining. For instance, in the 300 artisanal gold mining sites identified in Burkina Faso, the police are only present on forty sites. Many ASM sites are essentially lawless areas.

**Potential Impact and Intervention**
It is clear that as gold prices continue to rise, it is setting in motion dynamics that can breed and fuel conflict. Unless the state develops the capacity to regulate the industry and especially artisanal mining, simmering conflict could flare into larger conflicts especially if criminal elements (organized crime and terrorist groups) take control of the industry. From the ground this is not too hard, as illegal Chinese miners ability to hold their ground demonstrates.

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Gold and the Future of Agriculture

The Case of Ghana

Agriculture constitutes 40 percent of Ghana's gross domestic product, and employs about 60 percent of its workforce, according to the Ministry of Agriculture. In contrast, Gold wealth constitutes about 11% of the GDP yet approximately 30 percent of Ghana's land is currently under concession to gold mining firms, and each year more arable farming land is diverted to this use.

The threat to agriculture can be seen in the fact that the gold mining industry in Ghana is located in fertile agricultural areas. For example, the Western region which is a top gold producing region is also the main producer of cocoa, the most important cash crop and agricultural export.

Gold not only removes land from agriculture, but pollutants from mining activities also affect farming in the vicinity of gold mines. Further, the lure of gold is attracting farmers and especially young men (future farmers) away from the land and depleting farm labor.

Gold and agriculture are therefore in competition and the fortunes of agriculture, and with it the livelihoods of many who depend on it, are intertwined with the price of gold.

Production

Satellite images indicate that surface mining has resulted in a substantial loss of farmland (about 45%) within mining concessions, and widespread spill-over effects as relocated farmers have little option but to expand farmland into forests reserves. A related study finds that agricultural productivity has decreased by almost 40% in areas closer to mines, relative to areas farther away. The reduction in productivity is paralleled by a similar decline in agricultural output. The negative effects extend to areas within 20kilometres from mines, declining with distance, and are mostly present around polluting mines. The study finds that combined losses in yields of cocoa and maize are higher than the contribution of gold to Ghana government revenues. The study also found that rural poverty in mining areas had showed a relative increase of almost 18%. They conclude that the environmental and social costs of Ghana's gold boom may be much higher than previously thought.

Research evidence is being corroborated by farmers’ testimonies. A testimony by one farmer interviewed by the researchers makes the point, “...the expert from AGC (Artisanal Gold Council) came here to measure the affected places and told me not to use my farm area, ...they’ve told us it is poisonous because of the cyanide. Because I don’t sell my crops, my income has gone down...” the reason for which he has had to pull his children out of school.

While some refuse to buy crops from farmers whose land is known to be poisoned, poor peasants, who farm to feed their own families, have no such choice as testified by a Smallholder, Brian Fatusu, who grows cassava and palm: “...Since we don’t have any option, we turn a deaf ear to the fact that it is dangerous. We have to eat. So we eat this.”

Another farmer Thomas Antwi whose land in Ahansonyewodea is contaminated complains that he now finds it harder to get by: “...It has affected our farming so we can no longer farm.... Because there is a lot of rice in Ghana we all eat rice, but when it comes to doing actual farm work we can no longer do it because the land is poisoned and that has become really difficult for us...”

Displacement

Displacement of farmers to make way for gold mines is the norm in gold bearing areas. Goldfields Ghana Limited is reported to have displaced 30,000 landlords in 5 years and Newmont indicates that about 10,000 landlords were displaced during the first phase of the company’s operations and by the time the company completes its second phase operations, a total of 20,000 landlords would be displaced.

While farmers do receive compensation for loss of farmland, some farmers feel that the amount of compensation...
to be paid by Newmont mining company is GHS6,000 yet the farm could last for about 40 years.

Interventions
Mining companies have been sensitive to the impact of gold mining on agriculture and have been supporting agriculture. An example is the Agricultural Improvement and Land Access Programme (AILAP) initiated by Newmont in partnership with the Ministry of Food and Agriculture (MOFA) to develop agriculture in selected communities in the Ahafo district. In addition to providing inputs such as seed, fertilizer and herbicides to the farmers Newmont has also spent about $5.4 million to ensure that mining co-exist with agriculture.

However, it is not clear whether interventions like these are adequate to compensate and restore livelihoods. There is a degree to which it is impossible to capture the true social cost of displacement and resettlement of farming communities, particularly long-term post-resettlement impacts that cannot be computed in current compensation packages. Interventions should be designed to ensure that long term gains to farmers definitely outweigh long term costs. A way to assure this will be to include some form of insurance policies in the compensation package for farmers.

Box 3: Gold Mining and the Future of Biodiversity
Satellite imagery indicate that surface mining has resulted in deforestation (about 58%), in concession areas in Ghana. According to officials at the Forestry Commission of Ghana, about 40 percent of the 48 forest reserves with a total of 1,769.40 km in the Eastern Region had been degraded with illegal mining in the forest reserves being a major driver. This has also caused damage to many water bodies that served as sources of drinking water to many people in the region. Formal mining companies are also pressing upon the government to give them the license to start digging for Gold in these forests, underscoring the threat of gold mining to forests.

As the price of gold rises, pressure to open up mining in forest reserves will rise especially given the desperation of cash-starved governments to open up new revenue streams. For example in Sierra Leone, substantial gold deposits have been found under the Kangari Hills, a 21,000-acre forest reserve. Cluff Gold, a British company, has set up a base, and they’re ready to build their mine that will encroach chunks of the forest reserve. Despite a report to this effect, government has given the company a go ahead. Perhaps the fact that the gold deposits are estimated to be worth $5 billion, more than twice the value of the Sierra Leone economy can explain the decision to go ahead.

Forest and degradation of water bodies and thus fisheries are becoming important issues as mining activities increases. While artisanal miners are likely to cause the most damage due to their unregulated nature, incidents involving formal mining houses like the January 2012 massive cyanide spillage at Newmont Ghana’s Ahafo mining sites that killed about 3000 fishes are likely to increase.

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